

## ABSTRACT

An electric motor for a motor vehicle or other machine. The motor comprises a support member with electromagnets (coils) and a moving member with permanent magnets. The coils are divided into groups, each group having several sets of coils, each set having several coil units. Each coil has its own battery or other energy source. A drive circuit controls activation of the coils. At maximum power, all coils sets are energized together. At each lower power level, different groups of coil sets are operated, and a cycling circuit varies which of the groups are energized. In this way, energy drain on the batteries is evenly distributed, maximizing the operating time of the motor before recharging of the batteries is required. In one embodiment, the coils are turned on by SCRs, and transistors turn off the SCRs, providing a novel SCR turnoff circuit ideal for high voltage, low current applications.